

CLAIMS:

WHAT IS CLAIMED IS:

1. A linkage device that can be connected with at least one of another linkage devices and to itself, said linkage device comprising:
 - (a) a strip having a first end and a second end;
 - (b) a closure hub attached to said first end of said strip and having an opening to receive the second end of at least another linkage device and said linkage device;
 - (c) a locking mechanism within said closure hub;
 - (d) a connecting surface protruding from said strip and operable to secure said second end within said closure hub; and
 - 10 (e) a tampering detection device connected to said linkage device.
2. The linkage device of claim 1 further comprising an application distinct tag signifying a specific use.
3. The linkage device of claim 1 wherein said tampering detection device further comprises:
 - 15 (a) a first reservoir connected to said tag; and
 - (b) a flowable medium in said reservoir providing a visible image of information on said tag.
4. The linkage device of claim 3 further comprising an air channel under vacuum seal wherein said flowable medium is under pressure and when said device is tampered with, said vacuum seal is disrupted and said flowable medium leaves said reservoir causing said image of information to become less visible.
- 20 5. The linkage device of claim 4 wherein said flowable medium leaving said reservoir enters said air channel when said vacuum seal is disrupted.

6. The linkage device of claim 4 further comprising a second reservoir wherein said flowable medium leaving said first reservoir enters said second reservoir.

7. The linkage device of claim 1 wherein said device is reusable wherein said hub is operable to allow an authorized user to remove said strip from said hub.

5 8. The linkage device of claim 7 wherein said closure hub comprises a removable cover wherein when said cover is removed, said locking mechanism can be disengaged from said second end which releases said second end from said closure hub.

9. The linkage device of claim 7 wherein said linkage device comprises a code detection element which releases said closure hub from said strip when an
10 acceptable code is communicated to said code detection element.

10. The linkage device of claim 9 wherein said acceptable code is an emitted signal.

11. The linkage device of claim 1 wherein said linkage device further comprises:

15 (a) an electrically activated latch within said closure hub having a first position for preventing removal of said strip when placed within said hub and having a second position releasing said strip from said hub;

(b) an electrical activation circuit connected to said latch to move said latch between said first position and said second position;

20 (c) a portable power supply coupled to said activation circuit for providing power thereto;

(d) a power signal transmitter operatively connected to said power supply for transmitting a power signal at a predetermined frequency;

(e) a passive identification tag mounted to a device preprogrammed
25 with an identification code pre-selected from a large number of available identification codes, said passive identification tag being responsive to said power signal to actively impose a return signal on said power signal representative of said preprogrammed

identification code so that said power signal acts as a carrier of said imposed code signal;
and

(f) a reader circuit connected to said power signal transmitter and to said electrical activation circuit, said reader circuit responsive to said return signal to
5 activate said electrical activation circuit, to provide power from said portable power supply to move said latch between said first position to said second position, when said reader circuit determines that said identification code represented in said return signal matches an authorization code stored in said reader circuit.

12. The linkage device of claim 1 further comprising a power source.

10 13. The linkage device of claim 12 wherein said power source comprises at least one of a battery within said linkage device, an external power source, and inductive power supply wherein power is supplied by connecting said strip to said hub forming a conductive loop that can in turn have current induced within it from an external electromagnetic frequency flux.

15 14. The linkage device of claim 13 wherein said inductive power supply is supplied by connecting said strip to said hub forming a conductive loop that can in turn have current induced within it from an external electromagnetic frequency flux.

20 15. The linkage device of claim 14 wherein said inductive power supply provides at least one of local therapeutic heating and coagulative heating through said conductive loop.

16. The linkage device of claim 15 wherein a maximum heating temperature is reached for a specified time period and then said heating ceases.

17. The linkage device of claim 1 wherein said strip comprising at least one of:

- 25 (a) a layer comprised of a composite plastic;
(b) a layer comprised of a spiral core of metal threads;

- (c) a layer comprised of fiber optic strands;
 - (d) a layer comprised of an open area;
 - (e) a layer comprised of a thermally regulated area; and
 - (f) a spool of material that can be un-spooled and re-spooled from said
- 5 strip.

18. The linkage device of claim 1 wherein said device is made from biodegradable material.

19. The linkage device of claim 1 wherein said closure hub further comprises a collapsible baffle comprising a releasable agent within said baffle.

10 20. The linkage device of claim 19 wherein said baffle comprises a plurality of chambers to hold respective reactants which when combined form said agent.

21. The linkage device of claim 1 wherein said closure hub further comprises a motor wherein said motor activates said locking mechanism to pull said second end into said closure hub.

15 22. The linkage device of claim 21 wherein said device further comprises a controller to detect and automatically activate said motor when said second end is detected in said closure hub.

23. The linkage device of claim 2 wherein information on said application distinct tag is detectable by photon activation.

20 24. The linkage device of claim 23 wherein said photon activation comprises at least one of laser photon activation, visible light photon activation, radio frequency photon activation, X-ray photon activation, and infrared photon activation.

25. The linkage device of claim 1 wherein said tampering detection device further comprises:

(a) a plurality of fiber optic strands disposed in said strip and providing illumination of said linkage device;

(b) a light source connected to said fiber optic strands; and

(c) wherein when said device is tampered with, one of said plurality of

5 fiber optic strands break causing said illumination of said linkage device to become at least one of less illuminated or causing a spectral shift.

26. The linkage device of claim 25 wherein said illumination is of information on said application distinct tag.

27. The linkage device of claim 1 wherein said tampering detection device

10 further comprises:

(a) a core of electrically conductive material disposed in said strip;

(b) a power source providing electrical power through said electrically conductive material;

(c) a detector to monitor at least one of said electrical power level and

15 a resistance level of said closure device; and

(d) a reader to measure said electrical power and determine when at least one of said electrical power and said resistance level changes.

28. The linkage device of claim 1 wherein said tampering device further comprises a plurality of fiber optic strands within said linkage device wherein said

20 strands possess unique frequency characteristics which will change when said linkage device is tampered with.

29. The linkage device of claim 1 wherein said tampering device further comprises electrically conductive material with a known resistance wherein said resistance will change when said linkage device is tampered with.

25 30. The linkage device of claim 1 further comprising a power connection device to provide electrical power from a remote power source to said linkage device.

31. The linkage device of claim 29 wherein said power connection device provides power through said closure hub.

32. The linkage device of claim 30 wherein said power connection device provides power to said linkage device and said power is inductively captured for use
5 when said strip and said hub are engaged.

33. The linkage device of claim 32 wherein heat is generated from inductively captured power for heating of said linkage device.

34. The linkage device of claim 33 wherein said device ceases to heat once a specific temperature is obtained for a specific time period.

10 35. The linkage device of claim 1 further comprising an illumination device to provide light from a remote light source to said linkage device.

36. The linkage device of claim 1 wherein said closure hub comprises a plurality of openings to accept a plurality of second ends.

37. The linkage device of claim 1 wherein said linkage device is X-ray and
15 MRI compatible.

38. The linkage device of claim 1 further comprising at least one of an antibiotic medicine, an anti-fungal medicine, a bacteriostatic coating, and a bactericidal coating.

39. The linkage device of claim 38 wherein at least one of said antibiotic
20 medicine, said anti-fungal medicine, and said bacteriostatic coating has a timed release preparation.

40. The linkage device of claim 1 further comprising an anti-slip surface on a side of said linkage device making contact to an object.

41. The linkage device of claim 40 wherein said anti-slip surface further comprises a protrusion extending from said linkage device and connecting to said object.

42. The linkage device of claim 40 wherein said application distinct tag comprises a microchip which stores information.

5 43. The linkage device of claim 42 wherein said application distinct tag emits a signal which is used to determine a location of said linkage device.

44. The linkage device of claim 42 wherein information contained on said information tag is retrieved through a burst transfer of said information.

10 45. The linkage device of claim 43 wherein said signal is a burst of energy used for at least one of heating and shocking and object which said linkage device makes contact with.

46. The linkage device of claim 1 wherein said strip is expandable to a second given length when tension is applied that exceeds an initial tension value when said strip is at a first given length.

15 47. The linkage device of claim 1 wherein said hub further comprises a funnel device attached to an end of said hub receiving said strip.

48. The linkage device of claim 1 wherein said hub further comprises:

- 20 (a) an insertion device positioned through said hub to further secure said strip within said hub;
- (b) a locking device to secure said insertion device through said hub;
- and
- (c) protrusions to engage said insertion device.

49. The linkage device of claim 48 further comprising a rolling device within said hub to assist said strip as it engages said hub.

50. The linkage device of claim 1 wherein said hub further comprises an adjustable torque screw component to at least one of hold, pull and release said strip from said hub.

51. The linkage device of claim 50 wherein said torque screw is externally
5 adjusted.

52. The linkage device of claim 50 wherein said torque screw is internally adjusted by a motor inside of said hub and controlled and powered by an external source.

53. The linkage device of claim 50 wherein a direction said screw component is turned determines whether said strip is at least one of pulled through said hub and
10 released from said hub.

54. The linkage device of claim 50 wherein said hub comprises a plurality of openings to receive a plurality of strips.

55. The linkage device of claim 1 wherein said hub further comprises an outlet to receive at least one of an electrical powered object and a photonic powered object.

56. The linkage device of claim 55 wherein said identification distinct tag is
15 illuminated.

57. The linkage device of claim 1 wherein said strip further comprises a first part and a second part connected by a joint.

58. The linkage device of claim 56 wherein a first clamp section is connected
20 to said first part of said strip and a second clamp section is connected to said second part of said strip.

59. The linkage device of claim 1 further comprising an anchor through which said strip is fed which secures said strip to said anchor.

60. The linkage device of claim 35 wherein material is spooled from and is connected to said plurality of strips.

61. The linkage device of claim 59 wherein said linkage device comprises material connectors to secure material when said material is spooled from one linkage device and attaches to a second linkage device.

62. The linkage device of claim 2 wherein said application distinct tag emits a unique signal that is recognizable to allow a user to determine that said linkage device should clear a security check point.

63. The linkage device of claim 1 further comprising an external reader to induce said tag to emit at least one of a characteristic photonic signal and a characteristic electronic signal when said reader is placed in close proximity to said tag.

64. A linkage system, said system comprising:

- (a) linkage device comprising a strip, a closure hub attached to a first end of said strip and having an opening to receive a second end of said strip and a locking mechanism within said closure hub to hold said second end where said second end cannot be pulled out of said opening without user authorization, a connecting surface on said strip operable to secure said second end within said closure hub;
- (b) a tampering detection device; and
- (c) an insertion device for placing said linkage device around an object to bind.

65. The system of claim 64 wherein said insertion device comprises:

- (a) a first handle;
- (b) a second handle;
- (c) a needle;
- (d) a connection rod between said first handle and said second handle to secure said needle; and

(e) a dilator comprising a first end and a second end wherein said first end is connected to said needle and said second end is connected to a second end of said linkage device.

66. The system of claim 65 wherein said insertion device comprises a plurality of needles and dilators wherein said connection rod comprises a plurality of needle attachments and each needle is at an adjustable distance from each other needle along said connection rod.

67. The system of claim 64 wherein said insertion device comprises:

- (a) an activation device to activate said insertion device;
- (b) a storage area to hold said plurality of linkage devices;
- (c) a stamper device to push an individual strip out of said insertion device and around an element to be secured when activated by activation device;
- (d) a guiding device comprising an inner surface to direct placing said linkage device around said element; and
- (e) a pusher arm device with a first end connected to said insertion device and a second end connected to a roller device operable to run said roller device between said bottom side of said linkage device and said inner surface of said back plate when activated by said activation device.

68. The system of claim 67 wherein said stamper device further comprises an encoding device to include readable information on said linkage device.

69. The system of claim 64 wherein said insertion device comprises a drill bit device comprising a first end comprising a detachable drill bit, and a second end comprising an inner cavity to hold said linkage device wherein once said drill bit device has been drilled through a substance, said first end is removed to release said linkage device.

70. The system of claim 69 wherein said detachable drill bit remains in said substance to anchor one end of said linkage device to said substance.

71. The system of claim 69 wherein said insertion device further comprises communication elements to allow said insertion device to communicate with a reference point external from said insertion device.

72. The system of claim 64 wherein said insertion device comprises:

5 (a) a crimper arm to hold said linkage device in a U-shape;

(b) a storage area to hold said plurality of linkage devices; and

(c) an activation device to insert said linkage device around an object.

73. The system of claim 72 further comprising a guiding device to guide said linkage device around said object.

10 74. The system of claim 64 wherein said linkage device further comprises an application distinct tag signifying a specific use for said linkage device.

75. The system of claim 64 wherein said linkage device is X-ray and MRI imaging compatible.

15 76. The system of claim 64 wherein said linkage device further comprises at least one of an antibiotic medicine, an anti-fungal medicine, a bacteriostatic coating and a bactericidal coating.

77. The system of claim 64 further comprising a corner tab through which said linkage device is fed.

20 78. The system of claim 64 wherein said linkage device has a reservoir of material that can be released when externally activated.

79. A linkage system, said system comprising:

(a) linkage device comprising a strip, a closure hub attached to a first end of said strip and having an opening to receive a second end of said strip and a locking mechanism within said closure hub to hold said second end so that said second end

cannot be pulled out of said opening without user authorization, a connecting surface on said strip operable to secure said second end within said closure hub, an application distinct tag connected to said linkage device;

(b) a tampering detection device; and

5 (c) a detection device that is operable to perform at least one of reading information contained on said application distinct tag and determining whether said linkage device has been tampered with.

80. The system of claim 79 wherein said linkage device further comprises information access ports wherein information is accessible by said detection device
10 through said access ports.

81. The system of claim 79 wherein said linkage device comprises information on said tag that is readable with photonic activation.

82. The system of claim 81 wherein said detection device provides said photonic activation.

15 83. The system of claim 81 wherein said photonic activation comprises at least one of laser photon activation, visible light photon activation, radio frequency photon activation, X-ray photon activation, and infrared photon activation.

84. The system of claim 79 wherein said detection device identifies a change in electric flux within said linkage device.

20 85. The system of claim 79 wherein said detection device identifies a change in photon flux within said linkage device.

86. The system of claim 79 wherein said detection device induces a flux in said linkage device which in turn sends a signal to said detection device.

87. The system of claim 79 further comprising a remote database comprising stored information specific to said information contained on said tag.

88. The system of claim 87 wherein said detection device compares said information on said tag with said information at said remote database.

5 89. The system of claim 87 wherein said detection device collects information from said tag and sends said information to said remote database.

90. The system of claim 79 further comprising an imaging device to capture said information from said linkage device when an image of said linkage device is displayed.

10 91. The system of claim 81 wherein said information is displayed in at least one of a soft copy display and a hard copy display.

92. The system of claim 91 wherein said information is accessed by software detection of data on said soft copy.

15 93. The system of claim 79 wherein said linkage device is X-ray and MRI compatible.

94. The system of claim 79 wherein said linkage device further comprises at least one of an antibiotic medicine and an anti-fungal medicine, a bacteriostatic coating and a bactericidal coating.

20 95. The system of claim 79 wherein said reader supplies photons to said linkage device and reads a photon level from said linkage device.

96. The system of claim 79 wherein said reader supplies electricity to said linkage device and reads an electric level from said linkage device.

97. The system of claim 79 wherein said application distinct tag is illuminated by at least one of an internal photon generating device and an external photon generating device.